

FAST FACTS 2024

CARILION CLINIC INNOVATION AT A GLANCE



Carilion Clinic Innovation (CCI) is part of Carilion Clinic, a tax-exempt health system headquartered in Roanoke, Virginia. Carilion Clinic physicians, nurses and staff make unique discoveries through their research and continuous improvements to the care they provide to our communities. Some of these discoveries are innovations with commercial potential. Foremost, these innovations may benefit patients in our communities. When innovations are brought to market by an industry partner or spun out as a start-up, patients across the country and globe may benefit from our employees' curiosity and commitment to innovation.

OUR SERVICES

CCI is a resource for developing, protecting, marketing and capturing value generated from Carilion's intellectual property (IP) and commercial innovations. We work with industry partners interested in licensing Carilion Clinic's IP or collaborating with Carilion innovators to co-create next-generation products and services. Our team also supports entrepreneurship by growing and spinning out start-ups originating from Carilion.



OUR EXPERTISE

- » Assessing commercial potential of inventions
- » Invention development
- » IP protection, strategy and filing
- » Commercial deal sourcing and management
- » FDA and regulatory expertise



QUICK STATS

Inventions disclosed:

19

Inventions in active development:

9

Patents filed:

5 in 2024

33 active

49 lifetime

Inventors engaged:

100+

CCI INVENTION ACCELERATOR PROGRAMS

CCI offers various invention development programs and tools for Carilion innovators. The programs further derisk and develop inventions through lean, agile and human-centered design principles. Both programs provide CCI funding, project management and overall strategy. As needed, the programs partner with Carilion's Human Factors team, FDA experts, IP attorneys, Virginia Tech and others. **To apply, contact the Innovation team. Applications are accepted on a rolling basis to be responsive to emerging opportunities.**

The Workshop focuses on concept refinement and building a low-fidelity prototype to establish technical and commercial feasibility. With 7 active participants, The Workshop provides rapid prototype development resources and funding up to \$5,000.



Innovance is best for inventions with a low-fidelity prototype and validated commercial interest. This program provides up to \$30,000 of milestone-based funding to build a high-fidelity prototype and further (in)validate.



Makerspace is in the Center for Simulation, Research and Patient Safety. Makerspace houses a suite of resources for rapid prototyping and testing. The resources include 2 Prusa 3D printers, 2 medical-grade Formlabs 3D printers, Bambu Labs printers and a 3D printing technology specialist. Onsite CCI engineers Rob Fippinger and Connor Hale provide their knowledge and talent in CAD design, prototyping and healthcare device testing to support inventors in prototype design and creation.

Inventor Pathway is a [guide document](#) to help Carilion employees understand the innovator journey's processes, assets and resources.

CARILION CLINIC INNOVATION CHAMPIONS

Being a Carilion Clinic Innovation Champion means collaborating with start-up companies to shape how new healthcare solutions are developed. Champions provide valuable feedback, share expert opinions and ensure products are clinically relevant and patient-centered. This collaboration can lead to clinical trials or pilot programs, offering unique opportunities to influence innovation from the ground up and improving patient care. If you're interested, contact us!

ECOSYSTEM AND ACADEMIC PARTNERS



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INNOVATION IN ACTION

Presurgical planning

CCI worked with Cesar Bravo, MD, and the Center for Simulation, Research and Patient Safety to turn a 2D radiograph into a 3D-printed model of a patient's tumor for pre-surgical planning.

FEVAR arm mount

CCI worked with cardiovascular surgeon Josh Adams, MD, Marilyn Edwards, RN, and Braiden Saylor, CVT, to develop an arm mount for use in fenestrated endovascular aortic repair (FEVAR), and a provisional patent was filed in October 2024.

Surgical instrument detection

Under the direction of fifth-year general surgery resident Adam Goode, MD, CCI assisted in developing Allis Innovations' novel surgical instrument detection platform, instreedy, to address operating room efficiency related to the Central Sterile surgical instrument sterilization process.

Diabetic neuropathy management

California-based Empo Health's remote, in-home digital scale provides weight and high-resolution, full-color images of the feet to help patients manage diabetic neuropathy. VTC Ventures backs the device, currently in a clinical trial in Carilion's Institute for Orthopaedics and Neurosciences.

AT A GLANCE

» Carilion earned its second consecutive "America's Most Innovative Companies" honor from Fortune for sparking innovation through research and development, product invention, process streamlining and collaborative and thoughtful leadership.

» CCI played leading roles in the Roanoke Blacksburg Technology Council's monthly Beer & Biotech meet-ups, Game Changer Week for the region's technology community and the Disrupt Up AI conference.

» CCI was featured in "Roanoke's Reinvention: How a Small City Shifted Its Economy," the [cover story](#) of the Spring 2024 issue of Governing Magazine.

